

September 20, 1954

Dr. Dexter Rogers
Dept. Biological Sciences
Stanford University
California

Dear Dr. Rogers:

I was pleased to receive your most interesting letter of the 18th, and am anxious to help in any way that I can. W-327 has always been an enigma, though the amylomaltase reaction certainly clears up part of it. You will recall, however, that the intact cells fail to accumulate glucpse as expected on the basis of the amylomaltase and the non-utilization of exogenous glucose. Dried cells behave more nearly as expected, and accumulated glucose almost in stoichiometric equivalence to the maltose converted.

Have you talked to Mike Doudoroff about this at all? The worst of it was (at the latest I heard) that the failure to use glucose could not be pinned down to a defect in any single enzyme. It would be interesting to learn whether your GG, like maltose, can also bypass glucose.

The strain W-327 is being gotten out and checked so as to be ready to send you in a few days. But according to my records, you should have it at Stanford, as I sent it to Professor Tatum when it was first isolated. He visited here last week and so should be back home in a few days so that you can ask him (or try Laura). Let me know whether you find it; if not, I will forward a fresh one. In any event, I would caution you to keep it on a maltose medium; and to be constantly on the lookout for rather frequent reverse-mutations from Lac_3^- to Lac_3 . This is best checked by streakings on EMB glucose agar, which should accompany every run on each new cell suspension. With a little care, however, you should have little trouble, but you will certainly have to repurify the original stock from the lyophil. The genetic basis of W-327 is summarized, if you did not already know it, in the C.S.H. Symp. 16 at p. 434. ~~And~~ I am sorry I have no more reprints of this, but if you lack it, I can send one of the '49 JBC paper. Conversely, I would be pleased to have your own papers that may be relevant.

Yours sincerely,

Joshua Lederberg
Professor of Genetics

P.S. Would you leave the
enclosed card on Dr. Tatum's desk?

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